Causes Affecting the Value of Bonds

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Speculation and Investment

TWO classes of persons are interested in the price fluctuations of securities—speculators and investors. The speculator is one who assumes the risks of ownership with the purpose and intention of profiting by a change in the capital value, while the investor purchases securities or other property in order to obtain an income therefrom. If one buys a house and lot in order to obtain an income by renting the premises, then he is an investor. If, however, he purchases because of a belief that the property will advance in value within a reasonable time, he is speculating, that is, he is looking for *profit* which he expects to obtain through the enhanced capital value of the property. The buying and selling of securities with the object of profiting through a change in value (either up or down) is speculation, entirely apart from the question of whether the operator buys outright or on a margin. Investments may be foolish or ill-advised, but if the ownership is assumed with the belief that they will yield continuous income and with the intention of holding them for the sake of the income then the purchaser is properly an investor, not a speculator, even though the security is not entirely paid for at the time of purchase.

The speculator, to be sure, usually, though not always, operates in stocks, yet, even in that case experience shows that the movements of bond prices are of value in judging the price movements in stocks. Since, however, bonds are primarily an investment proposition rather than a medium for speculation, the chief interest in the movements of bond prices will naturally be found in the camp of investors rather than in that of the speculative group. If, therefore, we are considering the causes which affect bond prices, it is best to distinguish between those causes which affect the prices over a period of time and those, perhaps more obvious causes, which operate to influence prices during a shorter period. Since both sets of causes are in operation all the time it is not possible to draw a hard and fast line between what we shall consider the *short* and the *long* period. In a general way we can say that if we wish to know how bond prices will move during the next few months we should consider chiefly those causes which most strongly influence the immediate trend, bearing in mind as a background the causes which are operating to determine secular trend. Whereas, if we want to know how bond prices may be expected to move over the next five years, the long-time causes are those to which we must assign primary importance, modified at any time by the factors which exercise a more immediate influence.

The Difference Between Bonds and Other Securities

To distinguish between these two sets of factors it is necessary to con-

ceive clearly just what a bond is and how it differs from other classes of securities. The essential point about a bond is that it is a promise to pay a specified number of monetary units —dollars, pounds, marks, francs, etc. In this respect a bond differs fundamentally from a stock which represents a share in the prospects and profits of a going business. When you buy a share of stock you become, to that extent, a partner and part owner in an equity and thereby assume the risks of the business enterprise. A share of stock contains no promise to repay the purchase price, and, indeed, it contains no promise of re-payment whatever; but the owner holds the property-right in the physical plant, equipment and "good-will" of a business enterprise. By buying this certificate, the purchaser is virtually speculating on the success of the enterprise; by selling it "short," the seller speculates that the future earning power of the business will be less than it appears to be at the time of sale.

It is true, to some degree, that the value of a bond depends upon the success of the company which issues it, but the bond is a lien upon the assets and earnings prior to the stock, hence, the whole equity of the shareholders acts as a buffer to take the shocks before the bondholders are called upon to sustain any part of loss or diminished earning power. Since, in the case of a bond, liquidation is contemplated at maturity, the bondholder is interested only in the prospects of the business up to the time of payment of the bond. It follows, then, that if a bond has proper security behind it, that is, if it is protected by a strong equity in assets and earnings over and above what is required for the payment of the interest and principal of the bond, the bondholder need concern himself very little with the actual ups and downs of the business itself. For the purposes of this discussion attention will be confined to bonds of sufficiently high grade so that the element of business risk may be neglected except as the cycles of prosperity and depression may be found to influence the minds of investors, causing a rise and fall in general confidence.

A bond differs from a note only in the time which it has to run before maturity. Ordinarily, any promise to pay, having five years or less to run, is termed a note and hence is little influenced by the causes which lie back of what we may call the secular trend of bonds.

FACTORS IMMEDIATELY AFFECTING BOND PRICES

Current Interest Rate.—The factor of most immediate influence in bond values is the current interest rate. When the rate to be obtained on call loans or on short-time paper—three to nine months—rises, the possession of a bond paying a fixed rate of return becomes less desirable and, conversely, when the current interest rate falls the possession of the bond becomes thereby more desirable. It is not quite true that the value of a bond is the capitalized value, at the current rate, of the amount of its yield. The current interest rate may rise very sharply, but if this high rate is believed to be only temporary in its nature the price of bonds will not be severely affected.

Prices of Railroad and Industrial Stocks.—Two other influences that have an immediate affect on the value of bonds during comparatively short periods of time are the earnings of railroad and industrial stocks and the prices of stocks. These two factors are closely related, but not identical. As a period of prosperity reaches its zenith, the earnings of business enterprises are large and investors are tempted to sell their bonds and try to obtain higher returns by buying into the enterprises that show high earnings. Of course, the exhibition of large earnings furnishes the reason for the high price of the stocks, and to that extent these two factors are but two ways of stating the same phenomenon. But besides this, though related to it, is the upward movement of stock prices caused by the fever of speculation that always marks the culmination of a period of prosperity. People are hypnotized and carried off their feet by the profits which are being made through the appreciation in value of stocks, and many, whose funds would normally seek more conservative investment, yield to the temptation to speculate rather than invest, and they buy stocks, not primarily to secure a higher yield, but chiefly in the hope of profiting by anticipated appreciation. The demand for bonds is thereby lessened.

Emergency Prices During Periods of Depression.—A fourth influence of a temporary character should be noticed. An examination of Chart No. 6, in the preceding article, will show a sharp rise in the yield—corresponding to a fall in price—of bonds in times of financial panic. Note the abrupt movements in August 1893 and November 1907 and again, to a lesser extent, in 1913. In times of financial panic the need for ready cash is urgent, and, regardless of long-time values, bonds as well as all other securities are sacrificed by their owners to raise cash without which they face business failure. Such occasions offer golden opportunities to those who are strong in ready cash, but the opportunity is of short duration only, and bonds are first to recover as soon as the liquidation is over and the emergency passed.

FACTORS AFFECTING BOND PRICES OVER A PERIOD OF TIME

Changes in the Commodity Price Level

If it is true that the prices of bonds vary inversely with the rate of interest paid for short-time money, this can only mean that there are other and deeper causes which affect the secular trend of interest rates and bond prices alike. The first of these factors which we shall consider is the effect of changes in the commodity price level.

Money is defined as a standard of value, a medium of exchange and a medium through which value can be easily and safely stored up against a future need. A bond, we have previously observed, is a promise to pay a certain number of units of money. If the promise is considered practically certain of fulfillment, then the bond partakes of one of the primary characteristics of money. Entirely apart from the question of interest, the bond is a medium through the purchase and holding of which value may be safely stored against the future requirement. Since the bond is a promise to pay money, the purchase of a bond involves the yielding up of present value, that is, the power of command over present

economic goods—commodities and services—in exchange for a similar command over future goods. A question, therefore, arises. "If I part with the value in purchasing power represented by $1,000 today in return for $1,000 ten years hence, just what will $1,000 represent in purchasing power ten years hence?" It is a plain and painful fact that the person who sold a miscellaneous bill of goods for $1,000 in 1914 and purchased a bond bearing 5 per cent interest would not be able with the proceeds plus interest of the bond, should it mature today, to come anywhere near repurchasing the same bill of goods. He would, indeed, receive $1,000 principal plus $250 in interest making $1,250 in all; but it would take about $2,000 to command in exchange the same representative list of commodities.

Since sane people do not desire money for the mere pleasure of handling coins and bills, but because of the command it gives over the services of men and things, it follows that if the purchaser of a bond expects the dollars he is now yielding up to purchase less in the future he will pay fewer present dollars for a given number of future dollars, entirely apart from any question of the security involved.

It would not be fair to deduce directly from this, however, that in periods of rising prices bonds must fall *parri passu* with the rise in commodity prices. The change is brought about rather through the effect produced on the minds of investors by what they see going on about them. If prices have shown a somewhat falling tendency for a number of years, as was the case in 1900, the investor easily falls into the way of assuming that the same tendency will continue in the future that he has observed in the past. The great majority of people are powerfully influenced in their judgments of the future by what they have observed in the comparatively recent past. Logically, it may be a delusion to argue that because the sun has risen in the east in the past that it will, therefore, continue to do so in the future, but it is a delusion very hard for the human mind to resist. For such a deduction to be logically justified we should investigate the causes of the sun's past behavior and observe whether or not the same causes are still in operation and whether they may reasonably be expected to operate tomorrow. In the case of the movement of commodity prices we should investigate the cause of the movement that has been observed and try to discover whether or not the same causes may be expected to operate in the future with the same force as in the past. There is a tendency to say that, since prices have been rising for some years, there is danger of a future rise and the intelligent investor is inclined to protect himself against a possible continuation of this observed trend.

It is commonly said that business is done on the basis of an assumed stability in value of the dollar. This is doubtless true as regards short-time contracts. It also holds for long-time contracts except where some noticeable change in value has put the investor on his guard. It follows from this that the past trend in commodity prices affects bond prices through its effect on the expected future value of the monetary unit. If bond buyers

generally were of the opinion that the trend of commodity prices during the next ten years would be downward, it would be immediately evident that at the present time, December, 1919, safe bonds were almost ridiculously cheap, for not only is the price at a level which nets a high yield in dollars, but if the purchasing power of the dollar is to increase, then a thousand dollars some years from now will actually be worth much more than $1,000 now, and the bond, if secure, will return, besides interest, dollars of greater value than those which must be given up for it now.

If, on the other hand, we expect the present level of prices to continue no such advantage would accrue from purchasing future dollars by the sacrifice of present dollars. Since it is difficult, when a price level has once been established in the public mind, for the mind to picture vividly a radical alteration of this price level, we find that most men—most business men and investors—are now assuming that the present scale of prices will continue with little alteration. What is the ground for such an assumption? The reason usually advanced is that the great increase in the use of credit instruments will continue resulting in a permanently increased per capita circulation of money and credit.

If the present inflated conditions of credit could continue indefinitely then it is probably true that the general level of prices might also remain high. But the continuance of these credit conditions in Europe is possible only if the late belligerents are able to meet the interest charges and remain solvent. Otherwise their credit structure will collapse and such a collapse cannot occur without having a profound effect in the United States. A debacle in Europe must necessarily involve not only the repudiation of the war debts but also the destruction of popular confidence in credit instruments of all kinds including the paper money, which, with the war bonds, constituted the principle means of inflation. When transactions are brought down to a hard cash basis it is obvious that the scale of prices must suffer drastic reduction.

It is not, however, the future course of prices but rather the trend of prices in the recent past that influences the minds of most investors. Hence, so long as prices continue to show a rising trend, and for some time after, their influence may be expected to make for lower bond prices.

The Possibility of Spending

Expenditures for Consumption Goods.—Another factor that functions in the determination of bond prices is the possibility of spending. It is said that the interest rate in Holland in the seventeenth century was as low as 3 per cent. Doubtless several causes worked together to produce this result, but it is only reasonable to believe that one of these causes was the paucity of objects of expenditure. There were no railroads to make travel easy and pleasant. Sea voyages were long, tiresome and dangerous. There were no automobiles or "movies" upon which to spend one's money. When you receive a certain amount of income you are placed in a position to choose the objects upon which that income may be expended. You may elect to spend it for articles of immediate consumption or you may decide to

invest it. Investment usually takes the form of purchase of stocks or bonds. Hence the objects of possible expenditure compete with bonds for your money. The following table shows the increase in the production of pleasure automobiles since 1899. It has been impossible to show by figures the growth in the moving picture business and sales of graphophones but the fact is a matter of common knowledge. The increased use of these luxuries has been particularly marked since 1900.

Passenger Automobile Production in the United States

Wholesale Value

1899	$4,750,000
1904	23,634,367
1909	159,918,506
1910	213,000,000
1911	240,770,000
1912	335,000,000
1913	399,902,000
1914	413,859,379
1915	565,978,950
1916	797,469,353
1917	1,053,505,781
1918	801,937,925

Add 20 per cent for retail value.

If these objects of expenditure did not exist there would evidently be more funds seeking investment. That the standard of living has risen markedly during the past twenty years is evident to all. Electric lights have come into general use in homes, heating systems have supplanted the old-fashioned stove, and high-priced clothing has become common to all classes. The prevailing standard of living comprises those consumers' goods which people feel that they must have before they can save, hence, other things being equal, a higher standard of living is an influence unfavorable to investments, and, therefore, depressive to the price of bonds.

Distribution of Income

The question of the standard of living is closely bound up with the distribution of the social income. A comparatively even distribution of a given social income leads to a higher general standard of living, and hence tends to depress the value of bonds. If wages are low and profits large, the wage earners can purchase a relatively small quantity of consumable goods, while the receiver of profits having a large surplus, will increase his consumption only to a comparatively small extent. The surplus seeks investment. If, on the other hand, wages are increased at the expense of profits, this surplus, formerly available for investment, is distributed among a large number of people whose immediate wants are not satiated, and who, therefore, in most cases, will spend their increased incomes in achieving a higher scale of consumption, rather than in buying bonds. Hence, an increase in the share in distribution which labor receives, however desirable it may be considered from any other standpoint, is nevertheless unfavorable to the process of saving and investment. It results in an enlarged demand for consumers' goods and at the same time a relative curtailment in the supply of capital wherewith to produce them. The effect, of course, is to raise the current interest rate and depress bond prices.

The Productivity of Labor

Introduction of Labor-Saving Devices.—Since the demand for bonds depends upon the surplus production

available for investment, it is evident that any event which serves to increase the productivity of labor must result in increasing the surplus wealth which, if it remains in the hands of the business enterprisers, will certainly seek employment in productive enterprise. The productivity of labor may be increased to a very great extent by the introduction of labor-saving inventions, by virtue of which a greater volume of goods is produced by the same amount of labor that was formerly necessary to produce a lesser quantity. The number of such inventions during the last century and a half has been almost beyond counting; the most important being those involving the application of power to technical processes which were formerly performed by hand. Such, for example, is the application of steam power to the manufacture of almost everything that two centuries ago was made by the individual artisan with the aid of hand tools or simple foot-driven machines. Of such character have been the machine reaper, seeders, threshers and the other appliances which, within the last seventy-five years, have revolutionized farming methods. The importance of these inventions lies, not in the fact that they increase the per-acre yield of the soil, but rather that they enable one man to cultivate more acres, thus cheapening the food supply by reducing the labor cost. Under any and all circumstances the providing of food is of fundamental importance and it is only labor that is not needed for this purpose that can be used for the production of other things, including capital goods *i.e.*, tools, machinery, factory and office buildings, railroads, steamships, etc. Hence, the introduction of machinery into agriculture, increasing the productivity of agricultural labor, is of prime importance in releasing labor for employment in increasing capital and the supply of other consumable goods.

It should be noted, however, that the effect of increased productivity of labor has another and compensating effect, since it not only supplies increased incomes to seek investment, but it also releases labor from the employments in which it has been rendered more efficient to engage in new lines of production hitherto unprofitable or in the manufacture of capital goods which serve to increase still further the efficiency of labor. But in the process of employing the labor thus released new financing is required. Thus the supply of bonds offered is increased at the same time that the amount of wealth in the hands of prospective bond buyers is increased. The net effect will depend upon the extent to which those who come into possession of the enlarged incomes utilize them in the purchase of directly consumable goods or invest them in producers' goods *i.e.*, capital to be used for further production. If the savings effected by the labor-saving devices remained as profits in the hands of the business enterprisers, it would tend to increase the funds seeking investment, but if the savings are distributed among the wage earning class the tendency will be, as we have noted above, to increase the demand for consumers' goods and thus, in effect, expand consumption to keep pace with the increased productivity of labor, leaving little surplus for the increase of capital.

If the productivity of labor is increased through the lengthening of the working day there will be brought into existence a certain amount of additional product. The question of distribution, as in the case above, then becomes of paramount importance in relation to the effect on bond prices. If the greater part of this surplus goes to the laboring class in the form of overtime pay it will tend to be spent for consumers' goods and put demands on capital instead of supplying it.

Increased Industrial Efficiency.—When the efficiency of labor is increased through the perfection of industrial organization the resulting surplus innures directly to the advantage of the class of business enterprisers and hence seeks investment in productive enterprise. This phenomenon was plainly in evidence from 1898 to 1903. This was the period of the formation of the so-called "trusts," or gigantic combinations of capital. These combinations had two objects, namely, to realize internal economies by reducing overhead expenses and eliminating cross shipments, and to create conditions approaching monopoly control by reason of which the price of the goods might be raised to the public. In so far as the first object was attained an increased profit was realized through the well-known economies of large scale production. These increased profits sought investment, and, since a considerable portion of available funds naturally seeks investment in bonds, we find bond prices high in this period. In so far as the second object succeeds, the effect is a virtual lowering of real wages through the advance in prices, the increased profit remaining, of course, in the hands of the investing class. Although the price-raising operations of the "trusts" are doubtless real, they often attract a disproportionate share of public attention, owing to the spectacular character of the great combinations that attempt them, and it is very probable that the actual increase in price affected, in such cases, is much less than is commonly supposed. In fact, cases may be found in which the great combine actually finds it profitable to lower prices instead of raising them. Such a statement does not appeal to the popular imagination, to be sure, yet it must be remembered that few would-be monopolies are complete, and that, even when the control over price seems absolute, a check is, in most cases, present in the form of a possible use of substitutes. It seems reasonably probable that the combining of the various oil companies in the Standard Oil Company resulted in an actual lowering of the price of oil, not only as compared with its previous figure, but as compared with what the price would have been had the business remained competitive. Certainly the breaking up of the old Standard Oil Company did not result in any lowering of price. A combine that cannot realize internal economies as the result of combination, but must realize increased profits entirely through its power of raising prices, is of very uncertain stability.

Social and Political Stability

An influence that cannot be overlooked in the discussion of bond prices is found in the conditions of

social and political stability which vary in any country from time to time. It will be recognized at once that the bonds of unstable governments are much harder to market and bring a lower price than bonds of stable governments; but, in truth, the matter goes much further than this. In a country known to be subject to revolutionary outbreaks and whose political future seems uncertain there is a greater element of risk, not only in government bonds but in the bonds of railroads or industrial enterprises as well. Investors demand a higher return if they are to loan their money where a political upheaval may destroy either the actual physical structures or the property rights which stand as security for the loans. The bonds of enterprises in Central and South America, excepting Chile, Brazil, and the Argentine, have always constituted obvious evidence of this fact.

It is by no means so well understood that the same principle applies in countries ordinarily thought of as politically stable. Political stability is a relative term. Many events may occur that affect political stability. War is the most feared by investors. When a nation goes to war its debt begins to expand by leaps and bounds. The mere quantity of new bonds offered would alone suffice to reduce the selling price of government issues, but if the war is a serious one in which national existence is threatened the risk of defeat is ever present and the bonds will rise and fall with the varying fortunes of the armies in the field. The course of British consols during the Napoleonic wars (See Chart No. 1 of the preceding article) is the classical example showing the fluctuations in bond prices due to the fortunes of war. The same story has been repeated in the case of the national bonds, consols or rentes of all the belligerent powers in the recent war.

Government and Industrial Securities.—The above remarks regarding the effect of political conditions on the securities of national governments lead us naturally to inquire as to the effect of political conditions upon the value of railroad or industrial bonds. Before taking up this question, however, it will be advisable to call attention to certain pertinent facts regarding government and industrial issues respectively, and to dispose of certain popular superstitions regarding government obligations.

Government Bonds.—Just what is a government bond? Clearly, it is a promise to pay a certain sum of money at a certain time in the future together with interest at a fixed rate until the time for payment arrives. If the obligation is in the form of a consol or rente then there is no maturity; instead there is merely a promise to pay a fixed sum each year *in perpetuam.* If we inquire as to the security behind the government obligation the answer is readily given, namely, that the government bond is supported first, by the credit of the government, and secondly, it has behind it as security the whole possessions of the people of the country. Thus the taxing power can and must be used in support of the bonds to whatever extent necessary. It is certainly true that the bond is supported by the credit of the government, but this is another way of saying that the bond depends for its value upon the con-

fidence and respect which the government commands. A government that is at peace, that has only a small debt, whose tax levies on its people are not grievous, and which expresses and satisfies the ideals and aspirations of the great mass of its people has a high credit. Confidence in such a government runs high and its position seems secure. Of such a nature is the government of a country where land is plentiful, labor well-paid, natural opportunities abundant and living conditions easy. If the people are industrious, enterprising, steady and not overburdened by the debt heritage of past wars, every possible factor is helping to make confidence in the government and the future of the country. But in so far as these conditions are lacking public confidence also fails and credit falls. A government that has lost the respect and confidence of its people is ripe for revolution. Naturally its bonds are not worth much.

Stability of Government Bonds.—The idea that behind the bonds of a nation stands the power to levy upon all the physical wealth in the country is a complete illusion. In theory, it is true that the government has the legal right to levy taxes without limit to make certain the payment of its obligations; but practically, there is a limit beyond which people will not stand taxation. This limit is not a hard and fast thing. It varies with the intelligence, patriotism and sense of solidarity which pervades the masses. Hence it follows that the limit varies not only as between different races and different cultural groups, but varies also in the same group at different times. Taxes are never popular and the less of them any government is obliged to levy the less critical and better satisfied will its people be. In the last analysis, it must be evident that the real asset behind the bonds of any government is the good-will of its people; and the real value of its bonds must rise or fall with any changes in the circumstances which affect that good-will.

Affect of Political Disturbances.—It remains to consider the affect of political disturbances upon the bonds of corporations engaged in productive industry. The value and soundness of such bonds depends upon the producing or earning power of the properties behind them. A serious political disturbance of a revolutionary nature cannot but disturb the ordinary course of business and injure the earning power of all productive enterprises. But it is only a revolution of the extreme radical type, such as we have recently witnessed in Russia, that confiscates and destroys property and property values entirely. A national bankruptcy might take place in which the national debt was repudiated and the government overturned without involving such extreme measures. A nation may be beaten, like Germany, and its national bonds rendered worthless without changing the whole economic system or voiding the obligations of private corporations of their value. The bank credits built on government obligations may lose their value and severe business depression may result, yet, if the framework of the economic system is left intact, production will still go on even though at a diminished rate and the new government will presumably respect private property.

Hence, it is evident that, in the case of revolution, corporation bonds will in any event fare no worse than government bonds and, except in extreme cases, will fare better. Since government bonds are based on good-will, when good-will fails, all is lost; whereas, corporation bonds being based on producing capacity will still retain value so long as the ordinary processes of production are permitted to continue.

Tax-Exempt Bonds

As experience has seemed to show the increasing benefits and fairness of direct taxation over indirect taxation, a new element has been injected into the factors governing the yields to be obtained on bonds. Naturally, throughout the entire world as taxes have been levied on incomes there has been an attempt to so increase income that the results after taxation would remain relatively unchanged. The result in bonds has been the same. An individual formerly satisfied with a yield of 4 per cent on his or her investments demands and obtains a return of say 5 per cent subjected to income taxation, or an equivalent net return. Realizing this situation, our municipalities or other governmental bodies obtained legislation authorizing the exemption from taxation of their securities. Their plea was that as the money was to be used for public improvements it should be obtained as cheaply as possible. The most familiar issues in this country are the bonds and notes of our cities, states, federal government and the federal farm loan bonds. As the interesting developments in the field of tax-exempt bonds have occurred in the past few years, we will confine our discussion largely to that period. In the United States prior to the European war, the national debt was so light that federal income taxation was of little moment. At that time, however, local taxation was exerting an adverse influence and was helping to bring about the constant advance in bond returns. Non-taxable issues were in greatest demand in localities where the so-called property taxes were heaviest. There was no broad active and consistent demand, however, at the expense of corporation bonds.

With the advent of our entrance into the war, its financing became paramount, and income taxes increased by leaps and bounds. This has developed a strong demand for non-taxables of all character. The first amount of non-taxables available was not equal to the demand and as a result we have seen non-taxable issues giving a slightly lower return during the war period than before, while taxable corporation bonds have shown the largest increase in return in years and years. As and if income taxes show a reverse tendency over a series of years the returns to be obtained on taxables and non-taxables should show a trend directly opposite to that of the past three years. Of greater moment is the effect that the large number of non-taxable issues outstanding has had on the taxes collected by our different states and the federal government. Their existence has really defeated the purpose of the legislation. Wealthy individuals have concentrated their wealth more and more in non-taxable investments. Thus the very men who should con-

tribute large sums to the support of the government escape the heavy toll expected. This has led to considerable discussion of the legality of non-taxable issues and it is quite probable that new issues of bonds of the character formerly non-taxable may be greatly restricted in the future. It does not seem possible that any way can be found to remove the tax-exempt features from bonds of that character now outstanding. For the past three years the last month of the year has seen a steady liquidation of taxable corporation bonds. As commodity prices have advanced and taxes increased, bonds have constantly sought lower levels. Investors, therefore, have faced a constant shrinkage in principal. Federal income taxation laws allow the individual to subtract losses from income. Selling to establish such losses and switches into non-taxable issues have been the features of the year. As usual, such switching is a result of hindsight rather than foresight. Foresight would have suggested it early in 1917 and not since. The forces that have been bringing about a demand for non-taxables and the offsetting liquidation of taxables have undoubtedly seen or passed their peak, given no new legislation as outlined above.

To sum up the conclusions to which the aforementioned considerations seem to point, we may say that the underlying causes are six in number; namely: (1) commodity prices; (2) the possibility of spending; (3) the distribution of income; (4) social and political stability; (5) the productivity of labor; and (6) taxation.

BOND PRICES AND THE GENERAL PRICE LEVEL

The most important of these factors under normal circumstances is the change in the price level of commodities. An examination of Chart No. 6 (preceding article) shows clearly the tendency, *during most of the period* from 1890 to the present time, of bond values to follow in an inverse direction the important changes in the commodity price level; yet if a mathematical correlation were figured for the whole period it would have little value since from 1900 to 1906 the price index was nearly steady and the fluctuations in bond values during that period were plainly due to other causes.

From 1890 to 1896 prices were falling and the yield from bonds also fell to an even greater extent. During this period the extensive application of labor saving devices, especially in agriculture, was responsible for a great increase in the productivity of human labor. Social and political conditions in the United States and in the world at large were stable, and great fortunes were accumulated and invested by successful business men.

The period from 1897 to 1906 was characterized by the formation of most of the great "trusts" and the further creation and expansion of enormous fortunes. Bond yields reached their lowest point and, conversely, bond values reached their peak in 1902 when this process was at its height and commodity prices were stationary. We see that whenever the price level undergoes any important modification the effect on the trend of bond values is marked. On the whole, it would seem that when political con-

ditions become seriously disturbing they can, for the time being, dominate the situation. Note the rise in yields (fall in values) in 1896, the year of the Bryan Free Silver campaign, and 1914–15, when the Great War broke out in Europe; and again when the United States entered the war and the great issues of Liberty Bonds came into the field to compete with other securities for the investors' money. In the latter case rising prices coöperated so strongly with political factors that the separate effects cannot be distinguished. The sudden fall in yields (rise in bond values) following upon the Armistice shows clearly once more the effect of political factors, since the fall in prices followed the movement of bond values instead of preceding it.

The period from 1900 to the present time has been characterized by the multiplication of the possibilities of spending, the most conspicuous example of which is found in the growth of the automobile production from $4,750,000 in 1899 to $1,053,506,000 in 1917, which figure has undoubtedly been passed in 1919 although the figures are not obtainable at the present writing.

The outlook for the future in bond values depends upon the relative strength and direction of pull of the factors which we have outlined. Falling commodity prices will act to raise the value of bonds, and disturbed political conditions throughout the world will act to impair confidence, slow down production and keep the values of bonds low. Until stable conditions are restored it seems that political conditions will largely dominate the situation. After this liquidation is accomplished and the smoke clears away, the inevitable downward movement of prices must tend to raise the value of sound bonds. Meanwhile a system of taxation which discriminates against bonds in favor of preferred stocks is likely to lead, if it is continued for some years, to a considerable substitution of preferred stocks for bonds and a diversion of funds seeking investment into such issues.